

**WYOMING DEPARTMENT OF AGRICULTURE****ANALYTICAL SERVICES**

1174 Snowy Range Road

Laramie, WY 82070

Internet: <http://wyagric.state.wy.us/aslab/aslab.htm>

Phone: (307)-742-2984

E-mail: aslab@missc.state.wy.us**ANALYTICAL REPORT****Water Supply****Development Series**

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Lab Number:
Date Collected:
Date Received:
Date Completed:

Phone No:

FAX No:

Sample ID:

Analysis: Development Series

Purchase Order No:

WDA Invoice No

Amount Due: \$

Amount Paid: \$

Net 30 Days, Payable to: Wyoming Department of Agriculture

ANALYTE	UNITS	RESULT
Cations		
Calcium	mg/L	2.0
Magnesium	mg/L	1.0
Sodium	mg/L	400
Potassium	mg/L	1.4
Metals		
Copper	mg/L	0.005
Iron	mg/L	0.07
Lead	mg/L	<0.001
Manganese	mg/L	0.008
Zinc	mg/L	0.007
Other Analytes		
pH	pH Units	8.7
Conductivity	umhos/cm	1800

ANALYTE	UNITS	RESULT
Anions		
Carbonate	mg/L	27
Bicarbonate	mg/L	550
Chloride	mg/L	29
Fluoride	mg/L	1.9
Nitrate as N	mg/L	<0.1
Nitrite as N	mg/L	<0.1
Sulfate	mg/L	390
TDSbySummation	mg/L	1100
T. Alk. as CaCO ₃	mg/L	496
Hardness as CaCO ₃	mg/L	9
Corrosivity		1.14
non-aggressive		

Ref.	Analyte	Method	Units	Result
1				
2				
3				
4				

Prepared By:

kmh

I hereby certify that the above sample was analyzed by myself or my assistant.

Section Supervisor

Kenneth L. McMillan, State Chemist/Lab Manager

DS Anal



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Evaluation of Analysis - Human Consumption

Total Coliform	Not Determined	Fluoride level, EPA Std.	- Suitable
		Level for good dental health	- High
Total Dissolved Solids	Suitable	Discuss Fluoride levels with your dentist.	
Sulfate	Suitable	Copper	Suitable
Hardness as CaCO ₃	Soft	Iron	Suitable
Nitrate + Nitrite as N	Suitable	Lead	Suitable
Sodium	Unsuitable	Manganese	Suitable
		Zinc	Suitable

Evaluation of Analysis - Livestock Consumption

Total Dissolved Solids	Suitable	Sulfate	Suitable

Evaluation of Analysis - Lawn & Garden Irrigation

S A R (sodium Hazard)	Unsuitable	Conductance, umhos/cm	Unsuitable

Your water, Lab No: 0 has an overall classification for the stated purpose, as follows:

Not Evaluated for human consumption - **Bacteria Only**

Suitable * for human consumption - **Chemistry Only**

Suitable for livestock consumption

Unsuitable for lawn and garden irrigation

* Based on Total Dissolved Solids, Sulfates & Nitrate + Nitrite as N - Wyoming Minimum Standard for the transfer of rural property.



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SUPPLY DEVELOPMENT WATER QUALITY ANALYSIS

Date Received: 00-Jan-00			Lab No: 0		
CATIONS	mg/L	meq/L	ANIONS	mg/L	meq/L
Calcium	2.0	0.10	Carbonate	27.0	0.90
Magnesium	1.0	0.08	Bicarbonate	550.0	9.01
Sodium	400.0	17.40	Chloride	29.0	0.82
Potassium	1.4	0.04	Fluoride	1.9	0.10
			Nitrate as N	0.0	0.00
			Nitrite as N	0.0	0.00
			Sulfate	390.0	8.12
T. CATIONS	17.61		T. ANIONS	18.95	
Conductance, umhos/cm	1800		S A R (sodium Hazard)	57.66	
TDS by Summation, mg/L	1122		T Alk CaCO ₃ , mg/L	496	
pH, Units	8.7		Hardness as CaCO ₃ , mg/L	9	
Total Coliform			Hardness as CaCO ₃ , gr/gal	1	

Metal	Units	Result	EPA Limit
Copper	mg/L	0.005	1.3
Iron	mg/L	0.07	0.3
Lead	mg/L	<0.001	0.005
Manganese	mg/L	0.008	0.05
Zinc	mg/L	0.007	5.0

ERROR CHECKING

$$\% \text{ ERROR} = \frac{|(\text{meq/L cations} - \text{meq/L anions})| * 100}{(\text{meq/L cations} + \text{meq/L anions})} = 3.66 \quad (<5\%)$$

$$\text{TDS/COND} = \frac{(\text{ROE mg/L})}{(\text{Specific Conductance})} = 0.61 \quad (0.65 \text{ TO } 0.85)$$

$$\text{IONIC} = \frac{(\text{meq/L cations} + \text{meq/L anions})/2}{(\text{Sp. Conductance})/100} = 1.02 \quad (0.8 \text{ TO } 1.2)$$

OVERALL = 0.021996

MAX. OVERALL ALLOWED = 0.0531